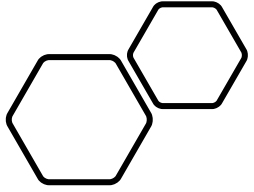


National Academy of Mathematical Sciences: A discussion document

- The Academy's mission is to support and advocate for the whole of the mathematical sciences, in all regions of the UK
- The creation of a broad-based Academy is an opportunity to find wholly new ways - physical and virtual - to create influential networks across disciplines and sectors
- The Academy must act as an enabler, not a competitor, enhancing the work of individual learned societies and organisations, just as the Royal Academy of Engineering and the Academy of Medical Sciences have done



Governance



The President and Vice-Presidents elected by, and from within, the Fellowship on four-year non-renewable terms



The Council (8 to 12 members, including the President and Officers) would be the trustees of the Charity



At least three Council members, not necessarily Fellows, chosen to ensure that the Council includes the full range of expertise necessary for good governance, including charitable law, finance and operations

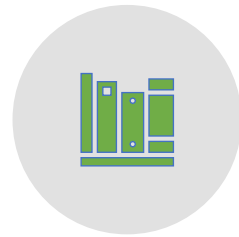


The Council would elect its Chair (who need not be the President)

Each Vice-President would chair a committee that takes responsibility for an area. These would cover all the aspects of the Academy's mission and operations. The portfolios would evolve over time, but might be:



ACADEMIC
AFFAIRS



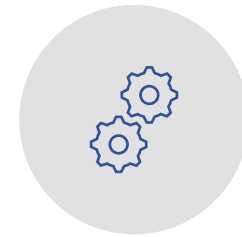
EDUCATION
&
ENGAGEMENT



FELLOWSHIP



KNOWLEDGE
EXCHANGE &
POLICY



OPERATIONS
& FINANCE



Academic Affairs

Education &
Engagement

Knowledge Exchange &
Policy

- These functions work closely together, developing the mathematical sciences brand and demonstrate the power of mathematics in society
- They promote and support mathematical scientists at all career stages and in all areas of employment
- They act as, or broker, a single voice for the mathematical sciences



Academic Affairs

- promote and support mathematical scientists in academia at all career stages
- champion the work of the UK's learned societies in the mathematical sciences
- represent the mathematical sciences in relationships with other academies, both nationally and internationally
- facilitate a single voice for the mathematical sciences in relationships on academic matters with UKRI, other funding bodies, Universities UK, etc.



Education & Engagement

- take a leading role in all aspects of public engagement including press and publicity
- coordinate discipline-wide and life-long mathematical sciences education
- promote and support mathematicians in education at all career stages
- enable the mathematical sciences to speak with a single voice on educational matters with Government and other bodies

The development and structure of this workstrand and Committee arrangements would build on the present arrangements for ACME. The Academy would possibly take over ACME from the Royal Society.



Knowledge Exchange & Policy

- enhance knowledge exchange between the mathematical sciences, other academic disciplines and all stakeholders outside academe, such as government, industry and commerce
- promote and support mathematicians at all career stages outside of academia and education
- support the specialist professional organisations and the networks between them
- address wider policy issues where the mathematical sciences have a role to play and broker/facilitate the voice of the mathematical sciences to Government and internationally



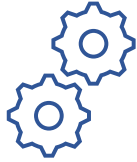
Fellowship

- Nominated by the Fellowship Committee and ratified by Council, Fellows would be formally elected by vote of the existing Fellowship. They would be elected for ten years, renewable for a second term. They would then automatically become Emeritus Fellows.
- Fellows will be expected to be eminent in some field. Certain distinctions might automatically imply eminence, but, especially for those outside academe, “eminence” need not necessarily be in a narrow mathematical sense.
- No matter how eminent, Fellows (wherever resident) would be expected to make an explicit commitment to support mathematical sciences in the UK. Fellowship is a commitment not an honour.
- Diversity of the Fellowship (both personal attributes and areas of interest and activity) is essential.



Fellowship and elections: some details

- How should the Academy ensure a diverse and vibrant Fellowship? How large do we envisage the Fellowship to be in steady state? In an initial state? And how to reach steady state?
- Should there be distinctions that automatically qualify for Fellowship? For instance FRS, FREng, FMedSci, FRSE, FLSW, MRIA, AcadSocSci, AcadEur, Fellowship of SIAM, Institute of Mathematical Statistics, American Statistical Association, American Mathematical Society? These societies select a small number of Fellows each year from a gathered field.
- Would there be equivalent metrics for distinction for mathematical scientists working outside academe, or making wider contributions, or would it be easier to consider them individually?
- In addition to considering nominations, the Fellowship Committee would have the responsibility of acting as a search committee, in particular ensuring diversity in all relevant regards. Each year it would publish an account of the aspects of diversity it had considered, and the action it had taken to search in the relevant groups.
- The fixed term for Fellowship is intended to prevent “gerontocracy”. It could be reviewed in 2040!



Operations & Finance

- This function would support the Academy achieving its mission, and includes staffing, finance, budgeting, annual reporting and accounts.
- An Executive Director would have day-to-day responsibility for all operational, HR and financial matters. The ED would report through the VP Ops & Finance to the President and Chair of Council and would attend Council.
- A small staff team managed by the ED would evolve with the Academy's funding and activities. To achieve the Academy's mission, professional capacity in communication and in policy will be important.
- The staff would support Council and Committee meetings, the Fellowship election process, and all the Academy's work programmes.



Funding and premises: some details

- Funds would be sought from government and philanthropic routes. Fellowship fees would provide a small amount of core funding, with rates in line with the other national academies.
- Stability is important, combining long term predictable grants and programme support from a range of sources. Funding for specific programmes might include knowledge exchange and education, and the policy work this entails.
- The Academy might take the opportunity to design its operations in a more virtual and dispersed fashion than has been characteristic of older academies.
- It would probably need the capacity (especially in London and Edinburgh?) for the Fellowship to meet regularly, including with external partners such as businesses, government, regulators and academia, and for a variety of purposes.
- Over time, the Academy might build an endowment to secure more independent income.



Pathways

It would never have been possible to define a single pathway to a fully functioning academy, and it is particularly difficult to do so during the uncertainty that characterises 2020. However, some factors stand out.

The investment necessary to get the Academy started is relatively small. It needs a group of people willing to give the time and commitment to act as the first Trustees, and the sums necessary to support them in identifying and electing the initial Fellows. The initial Trustees could indicate their desire to act only at the start, and to hand on to others elected by the Fellows as soon as practicable.

Much of the long term success will depend on the proto-Academy achieving some initial smaller successes, drawing on the energy of the Trustees and a good appointment as the Executive Director.

It will be essential to the early success of the initiative for there to be strong support from across the mathematical sciences, academia and business.

Everyone in the wider mathematics community can play a part by indicating that they support a collective endeavour: it will be particularly important to convey this mood to potential funders and to government.